

Application No.: 10/756,788      Amendment B, contd.

**Claims**

1. **(Original)** A new and improved tool for the removal of both metric and standard damaged fasteners, in combination:

a socket head having a cylindrical external configuration with an upper end and a lower end and an axis with a first axial length therebetween and with a square recess in the interior of the upper end adapted to receive the end of a ratchet wrench and multiple flats on the exterior to allow adaptation of a wrench or socket, the lower end of the socket head being fabricated with a major recess of a generally frustroconical configuration, the major recess having an interior surface formed with a plurality of inverted V-shaped projections and the right leg of the inverted V-shaped projections is at a slight angle or almost parallel and radius at the bottom connecting the inverted V-shaped projections, integral with the socket and extending radially inwardly from the lower end, thereby forming a plurality of angles with radially interior teeth, each of the angles having an apex with two faces of essentially uncommon lengths,

**Application No.: 10/756,788      Amendment B, contd.**

the faces of each angle being offset essentially equally from the radius of the cylinder, the apex of each tooth being angularly oriented with respect to the axis of the cylinder, the axial interior of the major recess having a smaller diameter than the axial exterior of the major recess, the major recess continuing through the socket head beyond the projections with a width greater than the diameter of the major recess at its axial interior whereby when placed over a rounded off head of a damaged fastener, a portion thereof will extend beyond the projections, and the socket head is rotated with a ratchet motion, the teeth will pull downwardly over the damaged fastener and bite into its exterior surface to effect a coupling therebetween for rotation of the socket head and associated damaged fastener to effect its removal.

Application No.: 10/756,788 Amendment B, contd.

Claims

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. **(Currently amended)** A new and improved tool for the removal of both metric and standard damaged fasteners, in combination:

a socket head having a cylindrical external configuration with an upper end and a lower end and an axis with a first axial length therebetween and with a square recess in the interior of the upper end adapted to receive the end of a ratchet wrench and multiple flats on the exterior to allow adaptation of a wrench or socket, the lower end of the socket head being fabricated with a major recess of a generally frustroconical configuration, the major recess having an interior surface formed with a plurality of inverted helix L-shaped projections with a recessed below and interment each of the inverted helix L-shaped projections and depending on the fastener the angle of each tooth will be between 102 degree and 105.30 degree but the optimum angle is 105 degrees and

**Application No.: 10/756,788      Amendment B, contd.**

extending radially inwardly at a 12 degree helix and a recess at the bottom of each leg connecting the inverted L-shaped projections, integral with the socket and extending radially inwardly from the lower end, thereby forming a plurality of angles with radially interior teeth, each of the angles having an apex with two faces of uncommon lengths, the faces of each angle being offset from the radius of the cylinder, the apex of each tooth being angularly oriented with respect to the axis of the cylinder, the axial interior of the major recess having a smaller diameter than the axial exterior of the major recess, the major recess continuing through the socket head beyond the projections with a width greater than the diameter of the major recess at its axial interior whereby when placed over a rounded off head of a damaged fastener, a portion thereof will extend beyond the projections, and the socket head is rotated with a ratchet motion, the teeth will pull downwardly over the damaged fastener and bite into its exterior surface to effect a coupling therebetween for rotation of the socket head and associated damaged fastener to effect its removal.

Application No.: 10/756,788      Amendment B, contd.

**Claims**

2. (Original) A device for the removal of both metric and standard damaged fasteners with rounded off heads from nuts comprising:

a socket head having a cylindrical external configuration with an upper end and a lower end and an axis with a first axial length therebetween and with a surface on the upper end adapted to receive the end of a turning tool, the lower end of the socket head being fabricated with a major recess of a generally frustroconical configuration with a second axial length, the major recess having an interior surface formed with a plurality of inverted V-shaped projections and the right leg of the inverted V-shaped projections is at a slight angle or almost parallel, integral with the socket and extending radially inwardly from the lower end with valleys intermediate the inverted V-shaped projections, thereby forming a plurality of angles with radially interior teeth, each of the triangles having an apex with two faces of essentially uncommon lengths, the faces of each angle being offset essentially equally from the radius of the cylinder, the apex of each tooth being angularly oriented with respect to the axis of the cylinder, the axial interior of

**Application No.: 10/756,788      Amendment B, contd.**

the major recess having a smaller diameter than the axial exterior of the major recess whereby when placed over the damaged fastener and when the socket head is rotated with a ratchet motion, the teeth will pull downwardly over the damaged fastener and bite into its exterior surface to effect a coupling therebetween for rotation of the socket head and associated damaged fastener to effect its removal.

Application No.: 10/756,788      Amendment B, contd.

**Claims**

2. (Currently amended) A device for the removal of both metric and standard undamaged fasteners comprising:

a socket head having a all the data in claim 1 in addition this tool will accept an undamaged fastener, whereby the apex of each tooth on the tool lands behind the fasteners points and the fasteners points extend beyond each of the tools teeth, in addition because each tooth is on a helix, each tooth has a greater landing area onto the fastener and the hexagon design continues the length of the interior to effect a coupling therebetween for rotation of the socket head and associated fastener to effect its removal.

Application No.: 10/756,788      Amendment B, contd.

Claims

3. (Original) The device as set forth in claim 2 wherein the major recess continues through the socket head beyond the projections with a width greater than the diameter of the major recess at its axial interior whereby when placed over a damaged fastener, a portion thereof may extend beyond the projections.



Application No.: 10/756,788      Amendment B, contd.

Claims

3. (Currently amended) The device as set forth in claim 1 and 2 wherein the intersection of flats on the head of the bolt or nut forms a point which fits over and into the recess between each tooth when the tool is placed over an undamaged fastener.

31

Application No.: 10/756,788      Amendment B, contd.

Claims

4. (Original) This design can be implemented into a wrench or a ratchet.

Application No.: 10/756,788      Amendment B, contd.

**Claims**

4. **(Currently amended)** This same inverted L-shaped design can also be used for installation and removal of undamaged fasteners and designed with less helix and less taper implemented into wrenches or a ratchets.

33

Application No.: 10/756,788 Amendment B, contd.

Claims

5. (Original) The same tool will remove both metric and standard damaged fasteners.

34

Application No.: 10/756,788 Amendment B, contd.

Claims

5. (Withdrawn) The same tool will remove both metric and standard damaged fasteners.